

CLAIMS

1. A curable composition

which comprises the following two components:

5 (A) a polyether polymer (I) having at least one crosslinkable functional group and a number average molecular weight determined by gel permeation chromatography of 10,000 or higher, and

10 (B) a vinyl polymer (II) having at least one crosslinkable functional group at a polymer terminus and compatible with the polyether polymer.

2. The curable composition according to Claim 1

15 wherein the polyether polymer (I) has a number average molecular weight determined by gel permeation chromatography of not lower than 15,000.

3. The curable composition according to Claim 1 or 2

20 wherein the vinyl polymer (II) has a constituting unit derived from an alkyl acrylate.

4. The curable composition according to any one of Claims 1 to 3

25 wherein the vinyl polymer (II) is obtained by copolymerization of (b1) an alkyl acrylate having an alkyl group of 1 to 3 carbon atoms, (b2) an alkyl acrylate having an alkyl group of 4 to 7 carbon atoms, and (b3) an alkyl acrylate having an alkyl group of 8 to 20 carbon atoms.

30 5. The curable composition according to any one of Claims 1 to 4

wherein the vinyl polymer (II) contains the alkyl acrylate in a weight ratio of not lower than 90% per the total of the vinyl monomers composing the vinyl polymer.

35

6. The curable composition according to any one of Claims 1 to 5

wherein the vinyl polymer (II) contains (b1) the alkyl acrylate having an alkyl group of 1 to 3 carbon atoms in a weight ratio of not lower than 1% and not more than 30% per the total of the vinyl monomers composing the vinyl polymer, (b2) the alkyl acrylate having an alkyl group of 4 to 7 carbon atoms in a weight ratio of not lower than 45% and not more than 95% per the total of the vinyl monomers composing the vinyl polymer, and (b3) the alkyl acrylate having an alkyl group of 8 to 20 carbon atoms in a weight ratio of not lower than 4% and not more than 35% per the total of the vinyl monomers composing the vinyl polymer.

7. The curable composition according to any one of Claims 4 to 6

wherein the weight ratio of (b1) the alkyl acrylate having an alkyl group of 1 to 3 carbon atoms is not lower than 1% and not more than 20% per the total of the vinyl monomers composing the vinyl polymer.

8. The curable composition according to any one of Claims 4 to 7

wherein the weight ratio of (b2) the alkyl acrylate having an alkyl group of 4 to 7 carbon atoms is not lower than 50% and not more than 95% per the total of the vinyl monomers composing the vinyl polymer.

9. The curable composition according to any one of Claims 4 to 7

wherein the weight ratio of (b2) the alkyl acrylate having an alkyl group of 4 to 7 carbon atoms is not lower than 60% and not more than 93% per the total of the vinyl monomers composing the vinyl polymer.

10. The curable composition according to any one of Claims
4 to 7

5 wherein the weight ratio of (b3) the alkyl acrylate having
an alkyl group of 8 to 20 carbon atoms is not lower than 5% and
not more than 30% per the total of the vinyl monomers composing
the vinyl polymer.

11. The curable composition according to any one of Claims
4 to 7

10 wherein the weight ratio of (b3) the alkyl acrylate having
an alkyl group of 8 to 20 carbon atoms is not lower than 6% and
not more than 20% per the total of the vinyl monomers composing
the vinyl polymer.

15 12. The curable composition according to any one of Claims
4 to 11

wherein (b1) the alkyl acrylate having an alkyl group of
1 to 3 carbon atoms is methyl acrylate and/or ethyl acrylate.

20 13. The curable composition according to any one of Claims
4 to 12

wherein (b2) the alkyl acrylate having an alkyl group of
4 to 7 carbon atoms is butyl acrylate.

25 14. The curable composition according to any one of Claims
4 to 13

wherein (b3) the alkyl acrylate having an alkyl group of
8 to 20 carbon atoms is dodecyl acrylate and/or octadecyl
acrylate.

30 15. The curable composition according to any one of Claims
1 to 14

wherein the vinyl polymer (II) has a number average
molecular weight determined by gel permeation chromatography
35 of not lower than 5,000.

16. The curable composition according to any one of Claims
1 to 16

5 wherein the vinyl polymer (II) has a number average
molecular weight determined by gel permeation chromatography
of not lower than 10,000.

17. The curable composition according to any one of Claims
1 to 16

10 wherein the vinyl polymer (II) has a number average
molecular weight determined by gel permeation chromatography
of not lower than 20,000.

18. The curable composition according to any one of Claims
15 1 to 17

wherein the vinyl polymer (II) has a ratio of the weight
average molecular weight to the number average molecular weight
determined by gel permeation chromatography of lower than 1.8.

20 19. The curable composition according to any one of Claims
1 to 18

wherein the polyether polymer (I) essentially has
polypropylene oxide as a main chain.

25 20. The curable composition according to any one of Claims
1 to 19

wherein the polyether polymer (I) has a crosslinkable
silyl group as the crosslinkable functional group.

30 21. The curable composition according to any one of Claims
1 to 20

wherein the vinyl polymer (II) is produced by atom
transfer radical polymerization.

35 22. The curable composition according to any one of Claims

1 to 21

wherein the vinyl polymer (II) has a crosslinkable silyl group as the crosslinkable functional group at a terminus.

5 23. The curable composition according to any one of Claims 1 to 22

wherein the vinyl polymer (II) has an alkenyl group as the crosslinkable functional group at a terminus.

10 24. The curable composition according to Claim 23 which further contains a hydrosilyl group-containing compound.

15 25. A formed body which is obtained by curing the curable composition according to any one of Claims 1 to 24.

20

25

30

35